2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt County

STREAM NAME: James River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I24R_JMS01A00 **TMDL MAP ID:** VAW-I24R-01

SEGMENT SIZE: 4.99 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** 2004 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Craig Cr. mouth on James R.

RIVER MILE: 331.13

LATITUDE: 37.64554 **LONGTITUDE:** -79.81348

DOWNSTREAM LIMIT:

DESCRIPTION: Upstream of Catawba Cr. mouth on the James R.

RIVER MILE: 326.14

LATITUDE: 37.60623 **LONGTITUDE:** -79.78490

The upper limit is the confluence of Craig Creek (Eagle Rock Quad) on the James River near Gala, Virginia. The lower limit of the segment is just above the mouth of Catawba Creek on the James River (Salisbury Quad) just west of Rt. 726 in Botetourt County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Total Phosphorus	Unknown

SUMMARY:

This segment of the James River remains 303(d) listed due to insufficient data for de-listing the General Standard (benthic) impairment of the original 1998 303(d) segment. The 1998 List reports the segment impaired for the aquatic life use due to contravention of the General Standard where moderate (aquatic life use / partial support) was reported at 2-JMS326.30. The impairment cause in 1998 was believed due to organic deposition as a result of upstream elevated total phosphorus concentrations.

The 2002 Assessment reports improved conditions in the segment at the same site. Benthic RBPII surveys demonstrate improved conditions from spring 1999- slightly (SI) and fall 2000- no impairment (NI). Additional data are required in order to assess the segment as fully supporting the General Standard.

Two total phosphorus values exceed the threshold of 0.20 mg/l from 15 samples at 2-JKS326.30 (at Salisbury). The two exceeding values are 0.40 mg/l in July 1997 and 0.26 mg/l in August 2000. Upstream reductions in magnitude and frequency of exceedances are found at station 2-JKS000.38 (I09R) where the 2002 Assessment finds 17 of 58 total phosphorus samples exceed the threshold versus the 2000 Cycle where 29 of 60 samples exceed. Station 2-JKS000.38 maxima are also reduced in 2002 from 0.70 mg/l versus 2000 Cycle 2.10 mg/l. The reductions in magnitude and frequency each lend evidence of improving conditions and the positive response found in the RBP II surveys.

RBP II survey data report full support of the aquatic life use from spring 1999- slightly (SI) and fall 2000- no impairment (NI) despite exceedances of the 1995 NOAA effect range - median (ER-M) sediment metal screening values (SV) for nickel and zinc. Based on these surveys the waters are assessed fully supporting even though sediment metals found are Nickel (Ni, SV= 51.6 ppm, 2 of 4 samples, 63.3 max.) and Zinc (Zn, SV=410 ppm, 1 of 4 samples, 661 max.) at station 2-JMS326.30.

The source of the total phosphorus exceedance is believed to be from upstream point source discharges and nonpoint source runoff.

The source of the metals are unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst, Campbell, Lynchburg, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_JMS01A00 **TMDL MAP ID:** VAC-H03R-04

SEGMENT SIZE: 10.15 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Reusens dam

RIVER MILE: 262.77

LATITUDE: 37.46306 **LONGTITUDE:** -79.18590

DOWNSTREAM LIMIT:

DESCRIPTION: Archer Creek confluence with the James R.

RIVER MILE: 252.62

LATITUDE: 37.42417 **LONGTITUDE:** -79.14155

James River mainstem from Reusens dam downstream to the Archer Creek confluence with the James River. The segment spans the Lynchburg and Kelly Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Exceedance of Nutrient SV	Urban Nonpoint Source Pollution and CSO
	Unknown

SUMMARY:

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceed the instantaneous 1000 n/100 ml criterion in 12/59 samples at 2-JMS258.54. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the total phophorus screening value of 0.20 mg/l. Total phosphorus exceeds the screening value in 6/58 samples at 2-JMS258.54. The segment begins in watershed VAC-H03R and ends in the upper portion of VAC-H05R.

A Consent Order requires the City of Lynchburg to embark on a long term project to correct sewage overflows (CSOs) by removing roof drains from homes and most importantly upgrading interceptor lines within the City. The total project cost was estimated to be 218 million dollars in 1989 dollars. A rough estimate for total project cost in today's dollars is 290 million dollars.

Since July 1, 1993 Lynchburg City has expended, authorized and appropriated 126.4 million dollars. A total of approximately 82.6 million dollars has been authorized for CSOs and 66.7 million dollars expended as reported in the DEQ Compliance Report for FY01. In addition 43.7 million dollars for Water Quality projects by the City are authorized. The Virginia Revolving Loan Fund (VRLF) and US EPA Special Purpose Grants account for approximately 75% of the 66.7 million dollars toward the projects through FY01.

As of June 2001 approximately 4,700 structures have had rainleaders disconnected representing approximately 73% of the total 6,432 structures. Citizens voluntarily disconnecting rainleaders saved the City an approximate 1 million dollars. Completed interceptor projects include Blackwater, Fishing and Ivy Creeks. 79 of the original 132 overflow points have been eliminated. The 2000 updated Lynchburg City sewer model shows a 60% reduction in combined sewer overflow volume since 1989 due to completed CSO projects. In addition to remaining rainleader disconnects and overflow points other projects include the replacement of the James River interceptor and infrastucture upgrades within the collection and waste treatment system.

The 2002 segment is shorten from the 1998 303(d) Listing. Two upstream stations 2-JMS282.28 and 2-JMS275.75 find no

exceedances of the fecal coliform bacteria instantaneous criterion each with 58 sample collections. Thus the segment is shortened to reflect these upstream conditions. The downstream end of the 1998 segment is shortened also as no data are available to substantiate extension beyond Archer Creek.

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows. The source of phosphorus is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Lynchburg, City of

STREAM NAME: Blackwater Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H03R_BKW01A00 **TMDL MAP ID:** VAC-H03R-01

SEGMENT SIZE: 10.24 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence of Tomahawk and Burton Creeks

RIVER MILE: 10.24

LATITUDE: 37.38639 **LONGTITUDE:** -79.21000

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Blackwater Creek on the James River

RIVER MILE: 0.00

LATITUDE: 37.41944 **LONGTITUDE:** -79.14611

Blackwater Creek from the confluence of Tomahawk and Burton Creeks to the mouth of Blackwater Creek on the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Sediment SV	Urban Nonpoint source Pollution and CSO
	Unknown

SUMMARY:

This segment of Blackwater Creek is not supporting the swimming use due to excessive counts of fecal coliform in 9/21 samples taken at 2BKW000.40. The segment is assessed as fully supporting but threatened for the aquatic life use. An exceedance of the US EPA screening value (SV) of 0.71 parts per billion (ppb) for mercury (Hg) in sediment was recorded at 2-BKW000.40.

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows. The source of mercury is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Amherst

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H05R_JMS01A00 **TMDL MAP ID:** VAC-H05R-01

SEGMENT SIZE: 6.15 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Wreck Island Creek confluence

RIVER MILE: 235.08

LATITUDE: 37.51222 **LONGTITUDE:** -78.89944

DOWNSTREAM LIMIT:

DESCRIPTION: Bent Creek

RIVER MILE: 228.93

LATITUDE: 37.53611 **LONGTITUDE:** -78.83000

James River mainstem from the Wreck Island Creek confluence downstream to the watershed boundary at the mouth of Bent Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Nutrient SV	Unknown
Exceedance of Sediment SV	

SUMMARY:

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 8/59 samples taken at 2-JMS229.14. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 6/59 samples taken at 2-JMS229.14. The segment is also threatened for the aquatic life use due to an exceedance of the sediment screening value. A DDT measurement of 10.06 ppb exceeded the DDT screening value of 7 ppb.

The sources of fecal coliform and phosphorus are unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Campbell, Amherst

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H05R_JMS04A00 **TMDL MAP ID:** VAC-H05R-02

SEGMENT SIZE: 2.36 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Upper watershed boundary at the confluence of Williams Run

RIVER MILE: 255.24

LATITUDE: 37.40139 **LONGTITUDE:** -79.09806

DOWNSTREAM LIMIT:

DESCRIPTION: Archer Creek

RIVER MILE: 252.88

LATITUDE: 37.39361 **LONGTITUDE:** -79.06222

James River mainstem from the upper watershed boundary at the confluence of Williams Run downstream to the mouth of Archer Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Nutrient SV	Urban Nonpoint Source Pollution and CSO
	Unknown

SUMMARY:

This segment of James River is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 12/59 samples taken at 2-JMS258.54. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 6/58 samples taken at 2-JMS258.54.

The source of the fecal coliform is urban nonpoint source pollution and combined sewer overflows. The source of phosphorus is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Nelson

STREAM NAME: James River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H08R_JMS01A00 **TMDL MAP ID:** VAV-H08R-01

SEGMENT SIZE: 10.08 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the Bent Creek confluence

RIVER MILE: 10.08

LATITUDE: 37.53611 **LONGTITUDE:** -78.82889

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Tye River confluence

RIVER MILE: 0.00

LATITUDE: 37.63972 **LONGTITUDE:** -78.80528

Segment begins at the Bent Creek confluence and ends at the Tye River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened, Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total Phosphorus - Threatened	Unknown
Exceedance of Fish Tissue - Threatened	

SUMMARY:

2-JMS229.14 - 8 fecal coliform violations out of 59 samples during the 2002 assessment period and six total phosphorus values exceeded the screening value out of 59 samples resulting in a threatened assessment

In addition 1 species of fish had a Clorodane, DDE, DDT & PCB result that exceeded the screening value in 1995 resulting in a threatened assessment.

The source of the fecal coliform is unknown.

The source of the organics is unknown.

The source of the total phosphorus is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst

STREAM NAME: Big Hollow

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H10R_XSX01A02 **TMDL MAP ID:**

SEGMENT SIZE: 0.59 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 0.59

LATITUDE: 37.78472 **LONGTITUDE:** -79.13889

DOWNSTREAM LIMIT:

DESCRIPTION: S.F. Piney River confluence

RIVER MILE: 0.00

LATITUDE: 37.79194 **LONGTITUDE:** -79.12917

Segment begins at the headwaters and ends at the South Fork Piney River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

5099 - Had a moderately impaired benthic rating and only one survey was done during the 2002 sampling period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amherst

STREAM NAME: Rutledge Creek

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAC-H12R_RTD01A00 **TMDL MAP ID:** VAC-H12R-01

SEGMENT SIZE: 3.16 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Amherst STP outfall

RIVER MILE: 3.16

LATITUDE: 37.58361 **LONGTITUDE:** -79.03056

DOWNSTREAM LIMIT:

DESCRIPTION: mouth on Buffalo River

RIVER MILE: 0.00

LATITUDE: 37.58889 **LONGTITUDE:** -79.00194

Rutledge Creek mainstem from the Town of Amherst outfall downstream to its mouth on the Buffalo River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Nutrient SV	Urban Nonpoint Source Pollution
	Unknown

SUMMARY:

This segment of Rutledge Creek is partially supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 3/20 samples taken at 2-RTD003.08. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 5/13 samples taken at 2-RTD003.30.

The source is a municipal point source (Amherst STP) and urban nonpoint source pollution.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Fluvanna

STREAM NAME: Hardware River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: VAV-H19R_HRD01A00 **TMDL MAP ID:** VAV-H19R-01

SEGMENT SIZE: 23.03 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2002 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 23.03

LATITUDE: 37.91750 **LONGTITUDE:** -78.55111

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the James River confluence

RIVER MILE: 0.00

LATITUDE: 37.73750 **LONGTITUDE:** -78.40222

Segment begins at the headwaters and ends at the James River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - DDT - Threatened	Unknown

SUMMARY:

2-HRD011.57 - 8 fecal coliform violations out of 56 samples during the 2002 assessment period.

2-HRD000.25 - 1 sediment sample exceeded the screening value for DDT in 1995 resulting in a threatened assessment.

The source of the fecal coliform is unknown.

The source of the sediment DDT is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle, Charlottesville, City of

STREAM NAME: S.F. Rivanna River

HYDROLOGIC UNIT: 02080203

SEGMENT ID.: **TMDL MAP ID:**

SEGMENT SIZE: 195.37 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: S.F Rivanna River Headwaters

RIVER MILE:

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with N.F. Rivanna River

RIVER MILE:

LATITUDE: **LONGTITUDE:**

Segment begins at the headwaters of the S.F. Rivanna River and all of its tributaries and continues downstream to its confluence with the N.F. Rivanna River. It includes all stream reaches where actual monitoring data doesn't indicate high total phosphorus levels.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nutrient Enriched Waters designation	Unknown

SUMMARY:

The S.F. Rivanna Reservoir and all tributaries upstream are designated Nutrient Enriched (9 VAC 25-260-350).

The designation was made to protect the S.F. Rivanna Reservoir (a public water supply for the City of Charlottesville & Albemarle Co.) from future discharges that may contribute to eutrophication. Actual monitoring data indicates that total phosphorus levels are quite low in the watershed.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Bath

STREAM NAME: Muddy Run

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I01R_MYY02A02 **TMDL MAP ID:**

SEGMENT SIZE: 2.62 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 2.62

LATITUDE: 38.13444 **LONGTITUDE:** -79.72583

DOWNSTREAM LIMIT:

DESCRIPTION: Rt 614 Bridge

RIVER MILE: 0.00

LATITUDE: 38.10583 **LONGTITUDE:** -79.75222

Segment begins at the headwaters and ends at the Rt 614 Bridge.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened (1.68 miles)

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

2MYY-1-SOS - Had a medium probability for impairment during the 2002 assessment period resulting in a threatened assessment.

The source of the rating is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Alleghany, Bath

STREAM NAME: Lake Moomaw (Jackson River)

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I03L_JKS01A02 **TMDL MAP ID:** VAW-I03L-01N

SEGMENT SIZE: 2004.95 - Acres

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Lake Moomaw

RIVER MILE: 49.31

LATITUDE: 38.00000 **LONGTITUDE:** -79.94184

DOWNSTREAM LIMIT:

DESCRIPTION:

RIVER MILE: 43.24

LATITUDE: 37.95083 **LONGTITUDE:** -79.95769

Lake Moomaw

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Metals in sediment	Natural/Stratification
	Unknown

SUMMARY:

Stations and their locations are: 2-JKS044.60 - near Dam, 2-JKS046.40 - Confluence w/Big Lick Cr., 2-JKS046.40 and 2-JKS048.90 Bolar Mtn. Campground. "TL" and "BL" suffixes are used to distinguish between surface collections and collections at depth.

Bottom layer: Dissolved oxygen in the bottom layer of the reservoir exceeds the 4.0 mg/l minimum criterion for Class IV waters. Exceedances occur in the late spring, summer and early fall. Dissolved oxygen depletion below the thermocline is a natural occurrence in reservoirs. Water Quality Standards do not specifically address the maintenance of dissolved oxygen levels (stratification) in a reservoir bottom layer. The minimum criterion, based on Class of water, applies to all waters in the Commonwealth. 2-JKS048.90-BL reports five excursions from 30 measurements, 2-JKS046.40 eight of 31 and 2-JKS044.60 exceeds the minimum in seven of 32. The waters only partially support the aquatic life use based on the existing Class IV dissolved oxygen minimum criterion and the natural depletion of oxygen at depth in reservoirs.

An exceedance of the 1995 NOAA effect range- median (ER-M) screening value (SV) is found for nickel (Ni, SV=51.60 ppm, 1 of 4 samples, 52.5 max.) at 2-JKS46.40. Station 2-JKS044.60 also records an exceedance for nickel (Ni, 1 of 4 samples, 60 max.) The waters are fully supporting but threatened for the aquatic life use based on these results.

Bottom dissolved oxygen depletion occurs naturally in reservoirs due to stratification.

The source of the metal exceedance is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Alleghany, Covington, City of, Clifton Forge, City of

STREAM NAME: Jackson River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I04R_JKS02A00 **TMDL MAP ID:** VAW-I04R-01

SEGMENT SIZE: 25.45 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** 2004 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Just downstream of the Covington water intake.

RIVER MILE: 25.45

LATITUDE: 37.81639 **LONGTITUDE:** -79.98904

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence of the Jackson and Cowpasture Rivers.

RIVER MILE: 0.00

LATITUDE: 37.78417 **LONGTITUDE:** -79.77614

The segment's upstream limit is on the Jackson River just below the Covington City Water Treatment Plant coursing downstream to the confluence of the Jackson and Cowpasture Rivers.

Note: The original 1998 VAW-I04R and VAW-I09R listed segments are combined into one segment. The swimming use fecal coliform bacteria impairment is extended upstream 1.24 miles in VAW-I04R. Changes in segment mileage are due to this expansion and the use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened, Fish Consumption Use - Threatened - PCBs in fish tissue - 11.21 miles

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total phosphorus - 24.21 miles/ Metals & Organics in sediment - 5.41 & 5.19 miles	PS - Ind. & Mun. / NPS - Urban

SUMMARY:

The original 1998 VAW-I04R and VAW-I09R listed segments are combined into one segment. The swimming use fecal coliform bacteria impairment is extended upstream 1.24 miles in VAW-I04R.

2002 Assessment station locations are:
2-JKS000.38 - Rt. 727 Bridge - near Iron Gate
2-JKS006.67 - Low Water Bridge - near Dabney Lancaster CC
2-JKS011.92 - Island Ford Bridge, Rt. 1101 - SS
2-JKS013.29 - Off Rt. 696 above Lowmoor
2-JKS013.45 - Island Ford Cave above Lowmoor - SS
2-JKS015.80 - Between I-64 & CSX Railroad N/Mallow - SS
2-JKS017.03 - Byrd's Farm #2 - SS
2-JKS017.30 - Byrd's Farm East of Covington - SS
2-JKS018.68 - Rt. 18 Bridge at Covington (Attachment B)
2-JKS018.68 - Rt. 18 Bridge at Covington - SS (Benthic)
2-JKS021.06 - S. Rayon Dr. Bridge, Covington - SS
2-JKS021.40 - Below I-64 Bridge & Harmon Run - SS (Benthic)
2-JKS022.15 - Industrial Park behind Wal-Mart - SS
2-JKS022.55 - Sediment Station
2-JKS022.78 - Fudge's Bridge, Rt. 154, Covington - SS
2-JKS023.32 - Swinging Bridge
2-JKS023.61 - City Park - Covington at gage

2-JKS023.61 - City Park - Covington at gage - SS (Benthic)
2-JKS023.88 - Covington City Park - Sediment & Fish Tissue
2-JKS024.14 - Rt. 60 Bridge, Covington - SS
2-JKS026.01 - Covington Water Filtration Plant (I04R) - SS
2-JKS030.65 - Rt. 687 Bridge - Clearwater Park (I04R)

Swimming Use
No exceedances of the fecal coliform bacteria instantaneous criterion of 1000 n/100 ml were recorded at 2-JKS030.65 (I04R) in 58 samples. Exceedances of the criterion occur at 2-JKS023.61 (I09R) in 19 of 59 samples over the five year period. Nonsupport of the swimming goal extends from river mile 25.45 (I04R- 1.71 miles) to 22.07 (I09R- 1.67 miles), a total distance of 3.38 miles. The waters do not support the swimming use. Although exceedances continue in the segment the presence of Klebsiella pneumoniae may be skewing the magnitude of the results (false positive readings).

2-JKS018.68 records only one of 58 samples exceeding the instantaneous criterion meeting the CWA swimming use goal (Attachment B). Past 305(b) reporting cycles in 1994 and 1996 note swimming nonsupport downstream of 2-JKS018.68. 2002 Assessment data at 2-JKS006.67 and 2-JKS000.38 each find two exceedances in 58 samples. All supporting the swimming use.

Westvaco Corporation performs confirmed phase testing for determining the presence of fecal coliform bacteria. Klebsiella pneumoniae can give false positive results for fecal coliform bacteria in the confirmed phase of testing. The company has extended testing to the completed phase. The completed test is performed on all positive confirmed phase samples. The results of the completed phase test provides more specific data for the presence of true fecal coliform bacteria. Effluent data reported show the majority of confirmed phase positive fecal coliform bacteria counts found are Klebsiella pneumoniae. The company will begin bacterial water quality monitoring in both the effluent and two downstream sites in 2002.

Past sewage pump station overflows, as well as some overflows at manholes, have been noted both upstream in VAW-I04R and in VAW-I09R. In 1988 Covington City became subject to a consent decree requiring elimination of combined sewer overflows; this work was completed in 1995 and the decree canceled. The City of Covington was subject to a consent order and penalty for an overflow in 1997.

Capital improvements have been made (1995 to 1999) to the collection and storm water systems. These improvements include Parrish Court (1995 & 1998; removal of storm water connections), Parklin Heights (1996), Dry Run (1998), Magazine Street (1998) and downtown sections of the City correcting I&I problems. Roof drains and sump pumps have been disconnected from the sewer system. In 1999 work on manholes in the downtown area was completed.

More recent capital improvements have been completed by Alleghany County for the Clearwater / Interval portion served by Covington. Installation of pump stations at Clearwater Park and Interval are complete as well as construction of an equalization basin and pump station ahead of the Covington Dry Run pump station. Initiation of operations began February 5, 2001. February 6, 2002 Alleghany County provided Submittal of Performance Certification (equipment performance standards verified).

In light of the elevated fecal coliform counts at 2-JKS023.61 (Maximum of 8,000+ n/100 ml; on three occasions) the 3.38 mile segment in watersheds I04R and I09R remains nonsupporting of the CWA swimming goal.

Aquatic Life Use
General Standard (Benthic): An aquatic life use nonsupport portion extends 2.14 miles on the Jackson from river mile 24.21 (I04R- 0.47 miles) (37°48'01.31" / 079°59'33.79") to 22.07 (I09R- 1.67 miles) due to severe impacts to the benthic community as measured at 2-JKS023.61. Rapid Biological Protocol II (RBP II) surveys report the invertebrate community is dominated by taxa that are tolerant of environments with low dissolved oxygen and high levels of solids (e.g.. Tubificidae, Planariidae, Chironomidae, and Simulidae).

A 9.07 mile partially supporting benthic portion extends from river mile 22.07 to 13.00 as measured at 2-JKS021.40 (single survey) and 2-JKS018.68 (10 surveys). 2-JKS018.68 shows some improvement relative to the City Park station. However, the benthic community is still dominated by pollution tolerant taxa.

Nonsupport is found at 2-JKS013.29 river miles 13.00 to 5.19 (nine surveys). The Lowmoor station has consistently had lower assessment scores and higher numbers of pollution tolerant organisms. Over the five-year period there is no difference in scores.

And downstream partial support is exhibited at 2-JKS0006.67 (nine surveys) from 5.19 on downstream to the Jackson River confluence with the Cowpasture River. Results from fall surveys may indicate a more stressed benthic community when stream flow is naturally lower and pollution effects more evident.

Impairments to the benthic community are believed due to nutrient and organic enrichment (deposition) for 24.21 miles. Based on ambient station solids data, the nutrients and organics are mainly dissolved.

Dissolved Oxygen: Diurnal swings in dissolved oxygen cause nonsupport of the aquatic life use for a total of 11.21 miles extending from river mile 24.21 (I04R- 0.47 miles) to 13.00 (I09R- 10.74 miles) (37°46'49.59 / 079°55'40.00"). Although there are only eight excursions of the minimum 4.0 mg/l dissolved oxygen (DO) standard in the ambient data multiple excursions are found in dissolved oxygen recorder data.

Ambient and intensive data indicate a diurnal affect. Intensive survey recorder data confirm late summer and early fall diurnal

excursions of the minimum DO. A YSI 6000 recorder found 222 exceedances of the minimum from 481 measurements over approximately four days, September 16 through 21 in 1998. The minimum found is 1.22 mg/l on 09/21 at 8:15 AM and the maximum the same day at 12:00 noon 9.64 mg/l. Measurements at 2-JKS023.61 collected outside the monthly sampling program found six of 25 exceedances. Four of the nonexceeding values were between 4.0 - 5.0 mg/l. Measurements made at the following stations also find DO values between 4.0 and 5.0 mg/l. Their results are (exceedances / total measurements; values between 4.0 - 5.0 mg/l):

2-JKS024.14 - 0/12; 0, 2-JKS023.61 - 0/65; 3, 2-JKS023.32 - 0/3; 0,
2-JKS022.78 - 0/14; 0, 2-JKS022.15 - 0/17; 4, 2-JKS021.40 - 0/1; 0,
2-JKS021.06 - 0/12; 1,
2-JKS018.68 (outside monthly measurements)- 0/12; 1,
2-JKS018.68 (monthly) - 1/65; 3,
2-JKS017.30 - 0/14; 6, 2-JKA017.03 - 1/3; 2, 2-JKS015.80 - 0/9; 5,
2-JKS013.45 - 0/6; 0, 2-JKS013.29 - 0/8; 0, 2-JKS011.92 - 0/2; 0,
2-JKS006.67 - 0/65; 0 and 2-JKS000.38 - 0/58; 0.

Total Phosphorus: Elevated total phosphorus concentrations are believed one of the causes for dissolved oxygen diurnal depressions. Elevated concentrations are found in the entire 24.21 mile segment. Total phosphorus threshold exceedances extend to the mouth of the Jackson River as measured at 2-JKS000.38 where 17 of 58 total phosphorus samples exceed the 0.2 mg/l threshold. 2-JKS023.61 found 26 of 59, 2-JKS018.68, 15 of 58 and 2-JKS006.67, 13 of 57 exceedances of the criterion.

Each of the four ambient station arithmetic average total phosphorus concentrations are above the 0.20 mg/l threshold. Concentrations range from 0.21 mg/l at 2-JKS000.38 to 0.29 at 2-JKS023.61 in the five year data window. A decrease in magnitude and frequency is found from the 2000 Cycle where 29 of 60 samples at 2-JKS000.38 and 37 of 60 exceed at 2-JKS023.61. Examination of the 2002 maxima also show a decrease in magnitude from 0.70 mg/l to 1.20 mg/l versus 2000 Cycle maxima of 2.10 to 3.40 mg/l at the aforementioned stations. In contrast an upstream station 2-JKS030.65 (I04R) reports concentrations at or below 0.20 mg/l for the five year period. Ambient station solids data indicate the nutrients and organics are mainly dissolved. No total phosphorus threshold exceedances were found in tributary data from Dunlap Creek 2-DNP001.98 (I07R), Potts Creek 2-POT000.12 (I11R) 14 samples each, or at Wilson Creek 2-WLN010.35 (I09R) 15 samples.

Sediment: Two segments of the Jackson River are 'Threatened' for the aquatic life use. The first is in the Covington area. An exceedance of the 1995 NOAA effect range- median (ER-M) sediment screening value (SV) was found at station 2-JKS023.88 for zinc (Zn SV=410 ppm, 1 of 1 sample 709 max.). Station 2-JKS023.61 found exceedances of the NOAA ER-M sediment metal SV for zinc (Zn, SV= 410 ppm, 2 of 4 samples 822 max.). Sediment polychlorinated biphenyls (PCBs) are above the screening value (SV) of 180 ppb with a maximum of 490 at 2-JKS023.61 from a 1998 collection. A 1997 sediment collection at 2-JKS022.55 found PCBs (SV= 180 ppb, 1 of 1 sample 182.4 max.) and chlorodane (SV= 6 ppb, 1 of 1 sample 17.6 max.) exceeding the NOAA ER-M screening values as well. These results designate the segment fully supporting, but threatened for the aquatic life use. 5.41 miles are 'Threatened' from river mile 24.21 (I04R) to 18.80 (I09R) (37°45'25.97" / 079°59'41.90").

The second is in the lower portion of the Jackson from the US 60/220 crossing (37°48'33.81" / 079°50'36.65") downstream to the Jackson and Cowpasture River confluence. A distance of 5.19 miles. Exceedances of the 1995 NOAA ER-M SV are found for nickel (Ni, SV= 51.6 ppm, 1 of 4 samples, 65.6 max.)

Fish Consumption Use
1995 fish tissue analysis from one fish reveals PCB levels of 63.7 parts per billion (ppb) in one species Carp at 2-JKS023.88. The EPA human health-risk based screening value is 54 ppb. The waters are fully supporting, but threatened for the fish consumption use based on the exceedance of the EPA SV. The 11.21 mile 'Threatened' segment extends from river mile 24.21 (I04R) downstream to 13.00 (I09R) (37°46'49.59" / 079°55'40.00").

Swimming Use
Urban nonpoint source runoff, primarily pump station overflows in watershed I04R, are believed the source for failure to meet the swimming use goal of the CWA. Additional bacteria monitoring will aid in making source determinations.

Aquatic Life Use
The source of the biological impairment is believed organic deposition due to elevated total phosphorus. The dissolved oxygen impairment is believed due to elevated total phosphorus concentrations causing diurnal depressions. Point source (PS) discharges and urban runoff are believed contributing to the elevated total phosphorus concentrations in the Jackson River.

The source(s) of the sediment metals nickel and zinc and organics PCB and chlorodane exceedances are unknown.

Fish Consumption Use
The exact source(s) of the PCB contamination are unknown. The Virginia Department of Health (VDH) level of concern for PCBs is 600 ppb in fish tissue.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Alleghany

STREAM NAME: Smith Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I09R_SMH01A00 **TMDL MAP ID:**

SEGMENT SIZE: 3.41 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Smith Creek Reservoir Dam

RIVER MILE: 3.41

LATITUDE: 37.84917 **LONGTITUDE:** -79.83840

DOWNSTREAM LIMIT:

DESCRIPTION: The Smith Creek mouth at river mile 3.96 on the Jackson River.

RIVER MILE: 0.00

LATITUDE: 37.81444 **LONGTITUDE:** -79.82444

This segment extends from Smith Creek Reservoir Dam downstream to the creek's mouth on the Jackson River at river mile 3.96. The entire segment is on the Clifton Forge Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nickel	Unknown

SUMMARY:

A formerly threatened 1993 water is continued due to the 1993 value remains above the 1995 NOAA ER-M sediment metal screening value (SV). The exceedance occurred for Nickel (Ni, SV=51.6, 2 of 2 samples, 86 max.) at station 2-SMH000.08. The water remains fully supporting, but threatened for the aquatic life use as the SV for 1993 remains above the 1995 NOAA revised ER-M screening value.

The source of the sediment metal exceedance is unknown.

Based on the application of the 1995 revised NOAA ER-M screening value for zinc this sediment parameter is removed from the threatened waters listing

The DCR ranks watershed I09R High for nonpoint source pollution potential.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Bath

STREAM NAME: Cowpasture River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I14R_CWP01A00 **TMDL MAP ID:**

SEGMENT SIZE: 50.75 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Bullpasture River

RIVER MILE: 63.48

LATITUDE: 38.18917 **LONGTITUDE:** -79.56389

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Pads Creek

RIVER MILE: 12.73

LATITUDE: 37.86667 **LONGTITUDE:** -79.73333

Segment begins at the confluence with the Bullpasture River and ends at the confluence with Pads Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened (1.68 miles)

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Nickel	Unknown

SUMMARY:

2-CWP050.66 - 1 sediment value exceeded the screening value for nickel during the sampling period during the 2002 assessment period resulting in a threatened assessment.

The source of the nickel is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: James River

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I18R_JMS01A00 **TMDL MAP ID:** VAW-I18R-01

SEGMENT SIZE: 15.36 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Confluence of the Jackson & Cowpasture Rivers.

RIVER MILE: 346.49

LATITUDE: 37.78417 **LONGTITUDE:** -79.77611

DOWNSTREAM LIMIT:

DESCRIPTION: Just above confluence of Craig Creek on the James at river mile 331.55.

RIVER MILE: 331.13

LATITUDE: 37.64583 **LONGTITUDE:** -79.81306

The upper limit is the confluence of the Jackson and Cowpasture Rivers at river mile 346.49 near Iron Gate, Va. (Clifton Forge Quad). The lower limit is the mouth of Craig Creek on the James River at river mile 331.55 (Eagle Rock Quad near Gala, Virginia.

Note: The 1998 segment length has been modified to coincide with the watershed boundary at Craig Creek. Slight mileage differences beyond the segment change are due to the use of the National Hydrography Dataset (NHD).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	PS/Ind. & Mun. / NPS-Urban
Total Phosphorus	

SUMMARY:

Originally listed in 1998 the segment continues to be partially impaired based on current Rapid Bioassment Protocol II (RBP II) survey data (nine surveys). The segment brackets biological station 2-JMS345.73 (Rt. 220 Bridge near Gage). This station shows the first discernible sign of improvement in water quality from upstream Jackson River RBP II stations. The station is moderately impaired because Tubificid worms are the dominant organism.

Additional study is required to determine the exact pollutant(s) or pollution causing the impairment. However ambient data from headwater tributary stations indicate the benthic impairment may be the result of nutrient and organic enrichment / solids deposition. Total phosphorus and solids data from two upstream stations; 2-JKS000.38 (Rt. 727 Bridge near Iron Gate - VAW-I09R) sampled monthly and 2-CWP002.58 (Rt. 633 Bridge at Gage - VAV-I17R) sampled quarterly were examined. Monthly phosphorus data from 2-JKS000.38 found exceedances of the 0.20 mg/l threshold in 17 of 58 samples. These results cause the waters to be fully supporting, but threatened for the aquatic life use. The data range from <0.01 to 0.70 mg/l. Five of the 58 samples are reported below 0.10 mg/l.

In contrast a limited dataset of 14 phosphorus samples from station 2-CWP002.58 report only one exceedance (0.52 mg/l) with remaining values ranging from below <0.01 to 0.10 mg/l. Eight of the quarterly collections coincide with the same day monthly collections at 2-JKS000.38. Comparison of same day total phosphorus collections (7) show 2-CWP002.58 had no phosphorus exceedances while 2-JKS000.38 had three. Coincident solids data from both stations indicate that the majority of the solids are dissolved. 2-JKS000.38 dissolved solids are nearly 80% greater than 2-CWP002.58 based on coincident sampling. Field conductivity data for the period show approximately the same percentage difference in the two upstream stations. Additionally, limited total phosphorus data collected quarterly from 2-JMS326.30 downstream in I24R found two of 15 samples

exceeding the total phosphorus threshold.

Tributaries to the segment are also monitored for phosphorus. Mill (14 samples) and Craig (16) Creeks found no total phosphorus exceedances. These data in combination suggest the presence of elevated total phosphorus concentrations and organic solids deposition may be contributing to the benthic impairment in VAW-I18R.

The impairment source is believed due to nutrient and organic deposition attributable to upstream point source (PS) discharges in the Covington/Clifton Forge area as well as contributory urban nonpoint source (NPS) runoff.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Craig

STREAM NAME: Mill Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I22R_MIU02A02 **TMDL MAP ID:**

SEGMENT SIZE: 6 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Mill Cr. headwaters.

RIVER MILE: 6.00

LATITUDE: 37.61111 **LONGTITUDE:** -80.03194

DOWNSTREAM LIMIT:

DESCRIPTION: Mill Cr. mouth on the Craig Cr.

RIVER MILE: 0.00

LATITUDE: 37.56250 **LONGTITUDE:** -80.03083

The segment begins at the Mill Creek headwaters and extends downstream to the Mill Creek confluence with Craig Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Single 1996 and 1997 U.S. Forest Service (USFS) Macroinvertebrate Aggregated Index for Streams (MAIS) surveys along Mill Creek find the benthic community with a high probability for adverse conditions. USFS stations 6514, 6515 and 6516 each report poor conditions. Verification of the potential impairment is needed. The aquatic life use is 'Threatened' as a result.

The source of the potential impairment is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Craig Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I22R_CRG01A00 **TMDL MAP ID:**

SEGMENT SIZE: 12.38 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Confluence of Stony Run on Craig Cr. at river mile 5.77.

RIVER MILE: 12.38

LATITUDE: 37.66389 **LONGTITUDE:** -79.91178

DOWNSTREAM LIMIT:

DESCRIPTION: Craig Cr. mouth on the James R.

RIVER MILE: 0.00

LATITUDE: 37.64528 **LONGTITUDE:** -79.81348

The segment begins at the mouth of Stony Run and extends downstream to the Craig Creek confluence with the James River. The segment crosses the Strom and Eagle Rock Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nickel, Zinc	Unknown

SUMMARY:

Exceedances of the NOAA effect range- median (ER-M) sediment screening values (SV) for nickel (Ni, SV= 51.6 ppm, 4 of 4 samples 95 max.) and zinc (Zn, SV= 410 ppm, 3 of 4 samples 630 max.) are encountered at 2-CRG001.20. The segment is fully supporting, but threatened for the aquatic life use.

The source of the sediment metals exceedance is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Catawba Creek

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAW-I25R_CAT03A00 **TMDL MAP ID:** VAW-I25R-01

SEGMENT SIZE: 11.89 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Downstream of Roanoke Cement intake.

RIVER MILE: 23.16

LATITUDE: 37.47000 **LONGTITUDE:** -80.00513

DOWNSTREAM LIMIT:

DESCRIPTION: Upstream of Town Br. mouth on Catawba Cr.

RIVER MILE: 11.27

LATITUDE: 37.51694 **LONGTITUDE:** -79.87914

The upstream limit of this segment is located just downstream of the Roanoke Cement Co. water intake on Catawba Creek. The segment ends just above the Town Branch mouth on Catawba Creek at river mile 11.84.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Metals in sediment	NPS
	Unknown

SUMMARY:

Swimming Use
Fecal coliform exceeds the 1000 n/100 ml criterion in three of 23 samples at 2-CAT014.34 (Rt. 606 Bridge, Botetourt Co.). The swimming use is only partially supporting.

Aquatic Life Use
An exceedance of the 1995 NOAA effect range-median (ER-M) sediment metal screening value (SV) for Nickel (Ni, SV=51.6 ppm, 1 of 4 samples, 61 max.) was found at station 2-CAT014.63. The segment is fully supporting, but threatened for the aquatic life use.

Swimming Use
Fecal coliform exceedances are believed due to nonpoint source runoff. The exact contributors are not known.

Aquatic Life Use
The source of the sediment metal exceedance is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Apple Orchard Run

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I27R_XSR01A02 **TMDL MAP ID:**

SEGMENT SIZE: 3.11 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 1.91

LATITUDE: 37.50972 **LONGTITUDE:** -79.52389

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the North Creek confluence

RIVER MILE: 0.00

LATITUDE: 37.52889 **LONGTITUDE:** -79.54361

Segment begins at the headwaters and ends at the North Creek confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

5574 - Had a moderately impaired benthic rating and only 1 survey was performed during the 2002 sampling period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Botetourt

STREAM NAME: Bear Hollow Run

HYDROLOGIC UNIT: 02080201

SEGMENT ID.: VAV-I28R_XST01A02 **TMDL MAP ID:**

SEGMENT SIZE: 1.22 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 1.22

LATITUDE: 37.54639 **LONGTITUDE:** -79.53667

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Back Run confluence

RIVER MILE: 0.00

LATITUDE: 37.55750 **LONGTITUDE:** -79.54694

Segment begins at the headwaters and ends at the Back Run confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

5578 - Had a moderately impaired benthic rating but only one survey was done during the 2002 sampling period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Maury River

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I33R_MRY01A00 **TMDL MAP ID:**

SEGMENT SIZE: 3.48 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: 3.48 miles above Kerrs Creek

RIVER MILE: 3.48

LATITUDE: 37.83111 **LONGTITUDE:** -79.41611

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Kerrs Creek

RIVER MILE: 0.00

LATITUDE: 37.81333 **LONGTITUDE:** -79.44111

Segment begins at 3.48 miles above Kerrs Creek and continues downstream to its confluence with Kerrs Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
DDT	Unknown

SUMMARY:

2-MRY029.17 - DDT exceeded the screening value in 1 sediment sample in 1996 resulting in a threatened assessment.

Unknown

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Sarah's Run

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I35R_XQY01A02 **TMDL MAP ID:**

SEGMENT SIZE: 2.4 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 2.40

LATITUDE: 37.75278 **LONGTITUDE:** -79.44694

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with the Woods Creek

RIVER MILE: 0.00

LATITUDE: 37.78139 **LONGTITUDE:** -79.45306

Segment begins at the headwaters and continues downstream to the Woods Creek confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

2SRR*-SOS - Had a medium probability for impairment rating during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Craig Creek

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_CGC01A02 **TMDL MAP ID:**

SEGMENT SIZE: 1.46 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 1.46

LATITUDE: 37.83639 **LONGTITUDE:** -79.24194

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Irish Creek

RIVER MILE: 0.00

LATITUDE: 37.81833 **LONGTITUDE:** -79.25444

Segment begins at the headwaters and continues downstream to the Irish Creek confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

5063 - Had a moderately impaired rating but only one survey was performed during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Chimney Branch

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_CHM01A02 **TMDL MAP ID:**

SEGMENT SIZE: 1.61 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 1.61

LATITUDE: 37.92333 **LONGTITUDE:** -79.05889

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Saint Mary's River

RIVER MILE: 0.00

LATITUDE: 37.93528 **LONGTITUDE:** -79.08000

Segment begins at the headwaters and continues downstream to the Saint Mary's River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

5019 - Had a moderately impaired rating but only one survey was performed during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Mine Bank Creek

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_MBC01A02 **TMDL MAP ID:**

SEGMENT SIZE: 1.45 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 1.45

LATITUDE: 37.91472 **LONGTITUDE:** -79.09028

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Saint Mary's River

RIVER MILE: 0.00

LATITUDE: 37.93278 **LONGTITUDE:** -79.09306

Segment begins at the headwaters and continues downstream to the Saint Mary's River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

5021 - Had a moderately impaired rating but only one survey was performed during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Spy Run

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_SUR01A02 **TMDL MAP ID:**

SEGMENT SIZE: 3.83 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 3.83

LATITUDE: 37.89861 **LONGTITUDE:** -79.12444

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with South River

RIVER MILE: 0.00

LATITUDE: 37.93028 **LONGTITUDE:** -79.16111

Segment begins at the headwaters and continues downstream to the South River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

5069 - Had a moderately impaired rating but only one survey was performed during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Maury River

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I37R_MRY03A00 **TMDL MAP ID:**

SEGMENT SIZE: 4.48 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Confluence with South River

RIVER MILE: 4.48

LATITUDE: 37.76750 **LONGTITUDE:** -79.38472

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Indian Gap Run

RIVER MILE: 0.00

LATITUDE: 37.72778 **LONGTITUDE:** -79.36250

Segment begins at South River confluence and continues downstream to its confluence with Indian Gap Run.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:

Fish Tissue - PCBs

IMPAIRMENT SOURCE

Unknown

SUMMARY:

2-MRY013.00 - PCB exceeded the screening value in 1 fish species tissue in 1995 resulting in a threatened assessment.

Unknown

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Rockbridge

STREAM NAME: Davidson Run

HYDROLOGIC UNIT: 02080202

SEGMENT ID.: VAV-I36R_DON01A02 **TMDL MAP ID:**

SEGMENT SIZE: 3.01 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 3.01

LATITUDE: 37.63778 **LONGTITUDE:** -79.38889

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Maury River

RIVER MILE: 0.00

LATITUDE: 37.65389 **LONGTITUDE:** -79.43417

Segment begins at the headwaters and continues downstream to the Maury River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

5066 - Had a moderately impaired rating but only one survey during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Mechums River

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H23R_MCM01A00 **TMDL MAP ID:**

SEGMENT SIZE: 10.44 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Lickinghole Creek

RIVER MILE: 10.44

LATITUDE: 38.06278 **LONGTITUDE:** -78.64722

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Moormans River

RIVER MILE: 0.00

LATITUDE: 38.13778 **LONGTITUDE:** -78.55111

Segment begins at the Lickinghole Creek confluence and ends at the Moormans River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - PCBs	Unknown

SUMMARY:

2-MCM005.12 - A single PCB value exceeded the sediment screening value during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Meadow Creek

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_MWC01A00 **TMDL MAP ID:** VAV-H28R-03

SEGMENT SIZE: 5.62 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2002 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 5.62

LATITUDE: 38.05528 **LONGTITUDE:** -78.49611

DOWNSTREAM LIMIT:

DESCRIPTION: Ends at the Rivanna River confluence

RIVER MILE: 0.00

LATITUDE: 38.04528 **LONGTITUDE:** -78.45444

Segment begins at the headwaters and ends at the Rivanna River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	NPS - Urban
	Unknown

SUMMARY:

2-MWC000.60 - 4 fecal coliform violations out of 23 samples during the 2002 assessment period.

2MWC-8-SOS - Had a medium probability of impairment rating.

The source is believed to be NPS Urban Runoff.

The source of the benthic ratings is not known.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Schenk's Branch

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_SNK01A02 **TMDL MAP ID:**

SEGMENT SIZE: 0.9 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 0.90

LATITUDE: 38.04111 **LONGTITUDE:** -78.49278

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with the Rivanna River

RIVER MILE: 0.00

LATITUDE: 38.04806 **LONGTITUDE:** -78.46944

Segment begins at the headwaters and continues downstream to the Rivanna River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

2SNK-SOS - Had a medium probability for impairment rating during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle

STREAM NAME: Meadow Creek X-Trib

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_XQZ01A02 **TMDL MAP ID:**

SEGMENT SIZE: 0.96 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 0.96

LATITUDE: 38.05806 **LONGTITUDE:** -78.52000

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with the Meadow Creek

RIVER MILE: 0.00

LATITUDE: 38.05528 **LONGTITUDE:** -78.49639

Segment begins at the headwaters and continues downstream to the Rivanna River confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

2MEA*-B-SOS - Had a high probability for impairment rating during the 2002 assessment period resulting in a threatened assessment.

The source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle, Fluvanna

STREAM NAME: Rivanna River

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H28R_RVN01A00 **TMDL MAP ID:** VAV-H28R-01

SEGMENT SIZE: 13.42 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** 2000 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Begins at the headwaters

RIVER MILE: 42.33

LATITUDE: 38.07278 **LONGTITUDE:** -78.43944

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Buck Island Creek

RIVER MILE: 28.91

LATITUDE: 37.96000 **LONGTITUDE:** -78.37000

Segment begins at the confluence of the North & South Rivanna Rivers and continues downstream to the Rivanna Rivers confluence with Buck Island Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened, 2

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total Phosphorus	NPS - Urban 1998
	Unknown

SUMMARY:

DEQ's biological monitoring station at river mile 35.91 indicated moderate impairment. Therefore 13.42 miles of this stream was assessed as partially supporting the Clean Water Act's Aquatic Life Use Support Goal for the 1998 305(b) report. This stream was not sampled during the 2002 assessment period.

2-RVN033.65 - 12 total phosphorus values out of 59 samples exceeded the screening value resulting in a threatened assessment for 8.23 stream miles.

The source of the benthic impairment is believed to be NPS urban runoff.

The source of the total phosphorus is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Albemarle, Fluvanna

STREAM NAME: Rivanna River

HYDROLOGIC UNIT: 02080204

SEGMENT ID.: VAV-H29R_RVN01A00 **TMDL MAP ID:**

SEGMENT SIZE: 13.38 - Miles

INITIAL LISTING: **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Buck Island Creek

RIVER MILE: 31.25

LATITUDE: 37.95556 **LONGTITUDE:** -78.37278

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Cunningham Creek

RIVER MILE: 17.87

LATITUDE: 37.85111 **LONGTITUDE:** -78.26472

Segment begins at the Mechunk Creek confluence and ends at the confluence with Cunningham Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Total Phosphorus	Unknown

SUMMARY:

2-RVN033.65 - 12 total phosphorus values out of 59 samples exceeded the screening value and 2-RVN015.97 - 8 total phosphorus values out of 59 samples exceeded the screening value during the 2002 assessment period resulting in a threatened assessment.

The source of the total phosphorus is unknown

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Powhatan

STREAM NAME: Deep Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H33R_DCR01A98 **TMDL MAP ID:** VAP-H33R-04

SEGMENT SIZE: 14.2 - Miles

INITIAL LISTING: 1996 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Maxey Mill Creek confluence

RIVER MILE: 14.20

LATITUDE: 37.51330 **LONGTITUDE:** -78.10900

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at James River

RIVER MILE: 0.00

LATITUDE: 37.62410 **LONGTITUDE:** -77.97140

Segment begins at the confluence of Deep Creek with Maxey Mill Creek, and extends downstream to mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Fecal Coliform	Unknown

SUMMARY:

The segment was listed as threatened of the swimming use on the 1998 303(d) list because of fecal coliform violations at 2-DCR003.00. In addition, EPA included the segment on their list of "Waters Identified to Virginia for Listing Consideration During Development of the Next List." During the year 2002 cycle, the fecal coliform violation rate was 0/27. Therefore the segment should be removed from the 303(d) list.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland, Cumberland, Powhatan

STREAM NAME: James River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H33R_JMS01A98 **TMDL MAP ID:** VAP-H33R-01

SEGMENT SIZE: 22.87 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Rivanna River

RIVER MILE: 166.61

LATITUDE: 37.75030 **LONGTITUDE:** -78.16410

DOWNSTREAM LIMIT:

DESCRIPTION: Big Lickinghole Creek

RIVER MILE: 143.35

LATITUDE: 37.68930 **LONGTITUDE:** -77.93090

Segment comprises the James River from the Rivanna River to Big Lickinghole Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Nutrients - Total Phosphorus	Unknown

SUMMARY:

This segment was originally assessed in 1998 as fully supporting but threatened of the Aquatic Life use support goal based on a total phosphorus goal violation rate of 21/85 at the Route 45 bridge (3-JMS157.28). However, during the year 2002 cycle, the violation rate was acceptable (3/64).

The segment was also included on EPA's list of "Waters Identified to Virginia for Listing Consideration During Development of the Next List". Fecal coliform was listed as the parameter of concern. During the 2002 cycle, the fecal coliform rate was acceptable (4/57), so the segment should be considered fully supporting of the Swimmable Use goal.

The segment does not appear to be impaired.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Powhatan

STREAM NAME: Fine Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H38R_FIN01A98 **TMDL MAP ID:** VAP-H38R-01

SEGMENT SIZE: 10.34 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 10.34

LATITUDE: 37.55630 **LONGTITUDE:** -77.93560

DOWNSTREAM LIMIT:

DESCRIPTION: James River confluence

RIVER MILE: 0.00

LATITUDE: 37.60640 **LONGTITUDE:** -77.81530

Segment consists of Fine Creek from its headwaters to the confluence with the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Swimmable Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Fecal Coliform	Unknown

SUMMARY:

Fine Creek was originally assessed in 1998 as fully supporting but threatened of the swimmable use goal based on a fecal coliform violation rate of 3/23 at the Route 711 bridge (2-FIN000.81). The segment was identified to Virginia for listing consideration. However, during the year 2002 cycle, the violation rate was acceptable (2/27).

The segment does not appear to be impaired.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland

STREAM NAME: Beaverdam Creek

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H38R_BDC01A98 **TMDL MAP ID:** VAP-H38R-03

SEGMENT SIZE: 8.73 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 8.60

LATITUDE: 37.74520 **LONGTITUDE:** -77.80300

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.63430 **LONGTITUDE:** -77.82880

Segment comprises all of Beaverdam Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Phosphorus	Unknown

SUMMARY:

The segment was originally listed as fully supporting but threatened of the aquatic life use goal on the 1998 303(d) list because of phosphorus violations at the first bridge downstream of Route 6 (2-BDC000.79). During the year 2002 cycle, the phosphorus violation rate was 0/27, therefore the segment should be removed from the list.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland

STREAM NAME: James River

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_JMS01B00 **TMDL MAP ID:** VAP-H39R-07

SEGMENT SIZE: 2 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** - 2002

UPSTREAM LIMIT:

DESCRIPTION: River Mile 130.14

RIVER MILE: 130.14

LATITUDE: 37.59920 **LONGTITUDE:** -77.74670

DOWNSTREAM LIMIT:

DESCRIPTION: River mile 128.14

RIVER MILE: 128.14

LATITUDE: 37.59020 **LONGTITUDE:** -77.73250

The James River for 1 miles upstream and downstream of river mile 129.14.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Cadmium	Unknown

SUMMARY:

This segment of the James River was assessed fully supporting but threatened of the Aquatic Life Use support goal based on an exceedance of the NOAA ER-M screening value for cadmium in sediment sample collected in 1996 at river mile 129.14 (2-JMS129.14).

The source of the cadmium is considered unknown.

Additional sediment monitoring is recommended to confirm the presence of cadmium in sediments, to better delineate the affected segment, and to identify sources, if any.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Goochland, Henrico

STREAM NAME: Major Tuckahoe Creek tributaries

HYDROLOGIC UNIT: 02080205

SEGMENT ID.: VAP-H39R_BOD01A00 **TMDL MAP ID:** VAP-H39R-01

SEGMENT SIZE: 11.76 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: N/A

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 4.69

LATITUDE: **LONGTITUDE:**

Major upstream tributaries of Tuckahoe Creek, including Anderson Branch, Broad Branch, Georges Branch, and Readers Branch.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened, Swimmable Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Dissolved Oxygen	NPS - Urban
Fecal Coliform	

SUMMARY:

The segment was considered threatened of the Aquatic Life use and Swimmable use goals based on widespread impairments in the watershed. Mainstem Tuckahoe Creek, upstream of the confluence with Little Tuckahoe Creek was removed from the 303d segment based upon an acceptable dissolved oxygen violation rate of 2/41 and an acceptable fecal coliform violation rate of 3/39 during the 2002 cycle.

Source of dissolved oxygen and fecal coliform standard violations is considered unknown. This area is suspected to be subject to nutrients from urban runoff in the watershed. This could be contributing to the depressed DO levels. However, this has not been verified.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Cumberland

STREAM NAME: Angola Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_ANG02A00 **TMDL MAP ID:** VAC-J06R-02

SEGMENT SIZE: 2.56 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Unnamed tributary downstream of Route 664

RIVER MILE: 2.56

LATITUDE: 37.37167 **LONGTITUDE:** -78.28500

DOWNSTREAM LIMIT:

DESCRIPTION: Appomattox River

RIVER MILE: 0.00

LATITUDE: 37.37611 **LONGTITUDE:** -78.24139

Angola Creek from an unnamed tributary downstream of Route 664 to the mouth at the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Nutrient SV	Unknown

SUMMARY:

This segment of Angola Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 9/11samples taken at 2-ANG001.27. The segment is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 4/11 samples taken at 2-ANG001.27.

The sources of fecal coliform and phosphorus are unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Cumberland

STREAM NAME: Horsepen Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAC-J06R_HRP01A00 **TMDL MAP ID:** VAC-J06R-03

SEGMENT SIZE: 3.82 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** 2010 - 2014

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 3.82

LATITUDE: 37.40333 **LONGTITUDE:** -78.32750

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at Big Guinea Creek

RIVER MILE: 0.00

LATITUDE: 37.42056 **LONGTITUDE:** -78.27583

Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Exceedance of Nutrient SV	Unknown

SUMMARY:

Horsepen Creek is not supporting the swimming use due to excessive counts of fecal coliform bacteria. Counts exceeded the instantaneous standard in 5/13 samples taken at 2-HRP000.42, a former confined animal feeding operation (CAFO) special study station. Horsepen Creek is fully supporting but threatened for the aquatic life use due to exceedances of the nutrient screening value. Total phosphorus exceeded the screening value in 4/11 samples taken at 2-HRP000.42.

The sources of fecal coliform and phosphorus are unknown. There is not enough data to determine if the CAFO facility is the source of impairment in this segment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia

STREAM NAME: Amelia Lake

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J07L_XLW01A00 **TMDL MAP ID:** VAP-J07L-01

SEGMENT SIZE: 110 - Acres

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Upstream limit of lake

RIVER MILE: 1.57

LATITUDE: 37.45600 **LONGTITUDE:** -77.92500

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 0.49

LATITUDE: 37.47120 **LONGTITUDE:** -77.92040

Amelia Lake

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - Thallium	Contaminated Sediment

SUMMARY:

Thallium in sediment in 1994 sample at 2-XLW000.60.

The source of the thallium violation is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Powhatan, Chesterfield

STREAM NAME: Skinquarter Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J07R_SQT01A00 **TMDL MAP ID:** VAP-J07R-01

SEGMENT SIZE: 7 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 7.67

LATITUDE: 37.47690 **LONGTITUDE:** -77.80240

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.41820 **LONGTITUDE:** -77.85520

Skinquarter Creek from its headwaters to its mouth at the Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Metal - Cadmium	
	Contaminated Sediment
Metal - Cadmium	

SUMMARY:

Skinquarter Creek was assessed not supporting of the Aquatic Life use support goal based on water quality monitoring performed at the Route 603 bridge (2-SQT001.54). There were 8 violations of the DO standard and 14 violations of the pH standard in 25 samples. The DO violation was confirmed at an upstream station (2-SQT003.12).

In addition, sediment sampling in 1995 indicated an exceedance of the NOAA ER-M screening value for cadmium.

The source of the cadmium violation is unknown.

Targeted monitoring and wetland delineation may be necessary to identify the limits of the segment affected by natural conditions. Such segments should be reclassified as wetlands where appropriate.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia

STREAM NAME: Nibbs Creek

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J09R_NBB01A98 **TMDL MAP ID:** VAP-J09R-01

SEGMENT SIZE: 5.28 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Amelia Courthouse STP

RIVER MILE: 6.45

LATITUDE: 37.36720 **LONGTITUDE:** -77.99170

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth at Flat Creek

RIVER MILE: 0.00

LATITUDE: 37.40220 **LONGTITUDE:** -77.93380

Nibbs Creek from Amelia Courthouse Sewage Treatment Plant to confluence with Flat Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Cd, Be - sediments	PS - Municipal
	Unknown

SUMMARY:

Nibbs Creek was assessed in 1998 as fully supporting but threatened of the swimmable use goals based on sampling at the Route 609 bridge. The segment was identified to Virginia for listing consideration during the next cycle. During the 2002 cycle, the segment is considered partially supporting of the swimming goal based on widespread fecal coliform violations

Fecal coliform 4/27 at the Route 609 bridge (2-NBB003.65);
Hog farm special study stations:
Fecal coliform 5/13 at the Route 630 bridge (2-NBB002.92 and previously called PL-43A),
Fecal coliform 7/7 at the Route 609 bridge (2-XQK000.15 and previously called PL-43B),
Fecal coliform 5/15 at the Route 636 bridge (2-NBB001.54 and previously called PL-43C).

The segment was initially assessed in 1998 as threatened for the aquatic life use goals based on sediment sampling on 03/06/1995 (beryllium 14 mg/kg and cadmium 11 mg/kg).

It was suspected that the Amelia Courthouse STP, which discharges to Nibbs Creek, may have been a contributing source, however a new wastewater treatment plant was completed in 1994. It is suspected that the problems may also be caused by nonpoint source runoff in the watershed.

The source of the metals in sediments is considered unknown. Additional sediment monitoring is necessary to confirm the metals in sediments, better delineate the affected segment, and identify sources, if any.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Amelia, Chesterfield, Dinwiddie, Nottoway

STREAM NAME: Appomattox River and Tributaries

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J10R_APP01A98 **TMDL MAP ID:** VAP-J10R-01

SEGMENT SIZE: 481.49 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Route 360 bridge (Goodes Bridge)

RIVER MILE: 50.23

LATITUDE: 37.35460 **LONGTITUDE:** -77.85230

DOWNSTREAM LIMIT:

DESCRIPTION: Lake Chesdin dam

RIVER MILE: 20.23

LATITUDE: 37.22030 **LONGTITUDE:** -77.52530

Lake Chesdin from its dam upstream to where the Route 360 bridge (Goodes Bridge) crosses the Appomattox River, including all tributaries to their headwaters that enter between the dam and the Route 360 bridge. Excludes segments where nutrient monitoring data has indicated use support.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Nutrient Enriched Waters designation	Unknown

SUMMARY:

The segment is designated a Nutrient Enriched Water in the Water Quality Standards.

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George, Chesterfield, Hopewell, City of

STREAM NAME: Appomattox River

HYDROLOGIC UNIT: 02080207

SEGMENT ID.: VAP-J15E_APP01A98 **TMDL MAP ID:** VAP-J15E-01

SEGMENT SIZE: 2.68 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** 2001 - 2010

UPSTREAM LIMIT:

DESCRIPTION: Fall line at Route 1/301 bridge

RIVER MILE: 10.40

LATITUDE: 37.23660 **LONGTITUDE:** -77.40420

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: 37.32080 **LONGTITUDE:** -77.27520

Entire estuarine Appomattox River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Nutrients - Chlorophyll A	NPS - Unknown

SUMMARY:

Entire estuarine Appomattox River was evaluated as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll_a exceedances:
4/18 at 2-APP001.53
3/3 at MA97-0677 (same location as 2-APP001.53)
2/2 at MA97-0071

The segment was assessed partially supporting of the Swimmable use support goal based on a fecal coliform violation rate of 7/59 at 2-APP001.53.

In addition, the segment is listed as partially supporting the fish consumption use because of PCBs (refer to fact sheet VAP-G01E-03.)

The nutrient enrichment in this segment is attributed to unknown nonpoint sources. The source of the fecal coliform standard violations is considered unknown.

Targeted monitoring is necessary to further delineate the affected segment and to characterize the causes and sources.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Charles City, Henrico, Prince George, Surry, Richmond, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A02 **TMDL MAP ID:** VAP-G01E-05

SEGMENT SIZE: 35.29 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Fall Line (Mayos Bridge)

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Downstream extent of tidal freshwater segment

RIVER MILE: 52.08

LATITUDE: 37.23500 **LONGTITUDE:** -76.94780

The tidal freshwater portion of the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Benthics	Unknown

SUMMARY:

The segment was assessed as fully supporting but threatened of the Aquatic Life Use support goal based on varied levels of benthic community impairment recorded by Old Dominion University's 1997 Baywide Benthic Study.

The source of the benthic community impairment is considered unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Henrico, Richmond, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS02A02 **TMDL MAP ID:** VAP-G01E-04

SEGMENT SIZE: 0.01 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: River mile 108.76

RIVER MILE: 108.76

LATITUDE: 37.51560 **LONGTITUDE:** -77.41690

DOWNSTREAM LIMIT:

DESCRIPTION: River mile 108.63

RIVER MILE: 108.63

LATITUDE: 37.51300 **LONGTITUDE:** -77.41690

Estuarine James River around the Sims Metals Battery Recycling Facility

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Lead	Unknown

SUMMARY:

Lead detected at levels over the NOAA ER-M screening value at 2-JMS108.76 and 2-JMS108.63.

The source of the lead is considered unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Charles City, Henrico, Prince George, Surry, Cities of Richmond, Hopewell

STREAM NAME: James River and tributaries

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A02 **TMDL MAP ID:** VAP-G01E-07

SEGMENT SIZE: 625.97 - Miles, Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Fall Line

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Chickahominy River (Buoy 70)

RIVER MILE: 48.40

LATITUDE: 37.22490 **LONGTITUDE:** -76.88900

Tidal freshwater James River from the fall line to the confluence of the Chickahominy River (Buoy 70) including all tributaries to a distance five river miles above their fall lines that enter the tidal freshwater James River. Excludes segments where nutrient monitoring data indicates full use support.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Nutrient Enriched Waters designation	Unknown

SUMMARY:

Designated a Nutrient Enriched Water in the Water Quality Standards

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Charles City, Henrico, James City, Cities of Richmond, Hopewell

STREAM NAME: James River and tributaries

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01E_JMS01A02 **TMDL MAP ID:** VAP-G01E-02

SEGMENT SIZE: 1023.44 - Miles, Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 110.30

LATITUDE: 37.52810 **LONGTITUDE:** -77.43500

DOWNSTREAM LIMIT:

DESCRIPTION: Hampton-Norfolk Bridge Tunnel

RIVER MILE: 0.00

LATITUDE: 36.98600 **LONGTITUDE:** -76.30470

Estuarine James River and tributaries downstream to the Hampton-Norfolk Bridge Tunnel.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
VDH Fish Consumption Advisory	Kepone
Fish Tissue - Kepone	Unknown

SUMMARY:

The James River and its tributaries from the fall line to the Hampton-Norfolk Bridge were assessed as threatened of the Fish Consumption Use because of a fish consumption advisory. The Virginia Department of Health issued the advisory because of a concern regarding Kepone.

Kepone exceedances in fish tissue were noted at several stations.

Historical kepone release.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesterfield, Henrico

STREAM NAME: Falling Creek Reservoir

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01L_FAC01A98 **TMDL MAP ID:** VAP-G01L-01

SEGMENT SIZE: 110 - Acres

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Extent of backwater

RIVER MILE: 6.53

LATITUDE: 37.45750 **LONGTITUDE:** -77.49480

DOWNSTREAM LIMIT:

DESCRIPTION: Dam

RIVER MILE: 3.76

LATITUDE: 37.46190 **LONGTITUDE:** -77.46630

Falling Creek Reservoir

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Dissolved Oxygen	Unknown
Nutrients	

SUMMARY:

Historical problems resulting from nutrients and organic loadings

Runoff from watershed

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Richmond, City of

STREAM NAME: Goode Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G01R_GOD01A00 **TMDL MAP ID:** VAP-G01R-01

SEGMENT SIZE: 1.23 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Broad Rock Creek

RIVER MILE: 1.23

LATITUDE: 37.48710 **LONGTITUDE:** -77.43780

DOWNSTREAM LIMIT:

DESCRIPTION: James River

RIVER MILE: 0.00

LATITUDE: 37.49870 **LONGTITUDE:** -77.42410

Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Phosphorus	Unknown

SUMMARY:

Goode Creek was assessed based on sampling at GOD000.07. The violation rate for fecal coliform was 12/21 and the violation rate for phosphorous was 3/21.

The source of the impairment is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hopewell, City of

STREAM NAME: Poythress Run

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03E_PTH01A00 **TMDL MAP ID:** VAP-G03E-03

SEGMENT SIZE: 0.01 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Fall line

RIVER MILE: 0.10

LATITUDE: 37.30810 **LONGTITUDE:** -77.27150

DOWNSTREAM LIMIT:

DESCRIPTION: James River confluence

RIVER MILE: 0.00

LATITUDE: 37.30920 **LONGTITUDE:** -77.27050

The tidal portion of Poythress Run.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - PCBs, chlordane, DDD, DDT, Total DDT Metabolites	Unknown

SUMMARY:

The segment was assessed as threatened for the Aquatic Life Use goal based on the exceedance of ER-M values for PCBs, total chlordane, DDD, DDT, and Total DDT metabolites in the sediment. The sampling occurred as a part of the special study done on Bailey Creek and Cattail Creek to determine the source of PCB contamination.

An ongoing special study was initiated in 1997 to delineate the area affected by PCBs and PCBs in sediments and to determine a cause of the impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Prince George, Charles City, Hopewell, City of

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03E_JMS01A00 **TMDL MAP ID:** VAP-G03E-04

SEGMENT SIZE: 5.31 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Appomattox River/Shand Creek

RIVER MILE: 77.84

LATITUDE: 37.32400 **LONGTITUDE:** -77.27920

DOWNSTREAM LIMIT:

DESCRIPTION: Powell Creek

RIVER MILE: 70.00

LATITUDE: **LONGTITUDE:**

The mainstem tidal James River from the confluence of the Appomattox River downstream to river mile 74.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - DDT & dibenz(a,h)anthracene	Urban Runoff

SUMMARY:

The segment was considered partially supporting of the Swimmable Use based on a fecal coliform violation rate of 7/59 at 2-JMS074.44.

The segment was considered threatened of the Aquatic Life Use based on ER-M exceedances of DDT and dibenz(a,h)anthracene at 2-JMS074.44 in 1995.

The fecal coliform bacteria is attributed to urban runoff and storm sewers. Upstream municipal and industrial point sources may also be contributing sources. However, this has not been verified.

The source of the sediment contamination is considered unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hopewell, City of

STREAM NAME: Cattail Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G03R_CAT01A00 **TMDL MAP ID:** VAP-G03R-03

SEGMENT SIZE: 1.45 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 1.94

LATITUDE: 37.28060 **LONGTITUDE:** -77.30620

DOWNSTREAM LIMIT:

DESCRIPTION: Fall Line

RIVER MILE: 0.73

LATITUDE: 37.28090 **LONGTITUDE:** -77.28260

The free-flowing portion of Cattail Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - PCBs	Unknown

SUMMARY:

Cattail Creek was listed as threatened for the Aquatic Life Use goal based on several exceedances of the ER-M value for PCBs.

An ongoing special study was performed from 1997 to 1999 to delineate the area affected by PCBs and PCBs in sediments and to determine the source of the impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Charles City, Surry

STREAM NAME: James River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G04E_JMS01A00 **TMDL MAP ID:** VAP-G04E-01

SEGMENT SIZE: 45.19 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Upstream extent of oligohaline segment

RIVER MILE: 52.08

LATITUDE: 37.23440 **LONGTITUDE:** -76.94670

DOWNSTREAM LIMIT:

DESCRIPTION: Downstream extent of oligohaline segment

RIVER MILE:

LATITUDE: 37.18350 **LONGTITUDE:** -76.64550

The segment includes the oligohaline portion of the James River from approximately river mile 52.08 to river mile

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Benthics	Unknown

SUMMARY:

The segment was assessed as fully supporting but threatened of the Aquatic Life Use support goal based on a violation rate of 6/31 of the random benthic stations recorded by Old Dominion University's 1997 Baywide Benthic Study.

The source of the benthic community impairment is considered unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hanover

STREAM NAME: Chickahominy River

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G06R_CHK03A02 **TMDL MAP ID:** VAP-G06R-02

SEGMENT SIZE: 4.4 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: One mile above monitoring station 2-CHK0042.37

RIVER MILE: 43.37

LATITUDE: 37.47600 **LONGTITUDE:** -77.14560

DOWNSTREAM LIMIT:

DESCRIPTION: Possum Run

RIVER MILE: 41.66

LATITUDE: 37.46310 **LONGTITUDE:** -77.12310

Chickahominy River bracketing the sample site at river mile 42.37, from river mile 43.37 downstream to Possum Run at river mile 41.66.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Sediments - PAHs	Unknown

SUMMARY:

Analysis of a sediment sample collected from the Chickahominy River in 1996 at river mile 42.37 indicated an exceedance of the NOAA ER-M ecological screening value for polyaromatic hydrocarbons (PAHs) These are fossil fuel byproducts, and some are known to cause cancer.

The source of the PAHs is considered unknown.

Additional targeted sediment monitoring is necessary to verify the impairment, further delineate the affected segment, and characterize its causes and sources, if any.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Hanover

STREAM NAME: Nest Branch

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAP-G06R_NES01A02 **TMDL MAP ID:** VAP-G06R-04

SEGMENT SIZE: 0.41 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** -

UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 0.41

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

Nest Branch from its headwaters to the mouth at Kent Lake.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Dissolved Oxygen	Unknown

SUMMARY:

Nest Branch is considered fully supporting but threatened of the Aquatic Life Use goal based on a dissolved oxygen standard violation rate of 4/37 at citizen monitoring station 2NES-11-ALL.

The sources of the dissolved oxygen violations is considered unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Surry

STREAM NAME: James River (mainstem & tributaries)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10E_JMS01A00 th **TMDL MAP ID:** VAT-G10E-06

SEGMENT SIZE: 209.92 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: All estuarine mainstem & tributaries waters downstream from confluence of the Chickahominy River with the James River.

RIVER MILE: 53.5

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: All estuarine mainstem & tributaries waters to James River up to the Chesapeake Bay confluence.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

All estuarine mainstem & tributaries waters from confluence with Chickahominy R. to end of James R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nutrient Enriched Waters designation	Unknown

SUMMARY:

Designated a Nutrient Enriched Water in DEQ's Water Quality Standards.

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Surry

STREAM NAME: James River (mainstem & estuaries except Pagan & Nansemond R

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10E_JMS01A00 th **TMDL MAP ID:** VAT-G10E-05

SEGMENT SIZE: 207.62 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: All estuarine mainstem & tributaries waters downstream from confluence of the Chickahominy River with the James River.

RIVER MILE: 53.5

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: All estuarine mainstem & tributaries waters (except Pagan & Nansemond Rs.) to end of James R. at confluence with the Chesapeake Bay.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

All estuarine mainstem & tributaries waters from confluence with Chickahominy R. to end of James R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
General Standard (Benthic)	Unknown

SUMMARY:

This is a continuation of the James Oligohaline segment due to benthic impairment (VAP-G04E-01) into this watershed and continues downstream to the end of the James River at the Chesapeake Bay confluence. Estuarine benthic BIBI surveys resulting in assessment of this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the reduced benthic diversity is unknown.

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Surry

STREAM NAME: James River (lakes)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10L_ZZZ01A00 th **TMDL MAP ID:** VAT-G10L-01

SEGMENT SIZE: 40.83 - Acres

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: All lakes from confluence of the Chickahominy River with the James River.

RIVER MILE: 53.5

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at confluence of James River at Chesapeake Bay confluence.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

All lakes from confluence with Chickahominy R. to end of James R at Chesapeake Bay confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nutrient Enriched Waters designation	Unknown

SUMMARY:

Designated a Nutrient Enriched Water in DEQ's Water Quality Standards.

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Surry

STREAM NAME: James River (riverine tributaries)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G10R_ZZZ01A00 th **TMDL MAP ID:** VAT-G10R-04

SEGMENT SIZE: 105.2 - Miles

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: All riverine from confluence of the Chickahominy River with the James River.

RIVER MILE: 53.5

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at confluence of James River at Chesapeake Bay confluence.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

All riverine from confluence with Chickahominy R. to end of James R at Chesapeake Bay confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Nutrient Enriched Waters designation	Unknown

SUMMARY:

Designated a Nutrient Enriched Water in DEQ's Water Quality Standards.

Source is unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Pagan River (Middle)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_PGN02A00 **TMDL MAP ID:** VAT-G11E-11

SEGMENT SIZE: 0.3 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule:** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at Rt 258 & 10 junction southside Smithfield.

RIVER MILE: 5.02

LATITUDE: 37.01667 **LONGTITUDE:** -76.66667

DOWNSTREAM LIMIT:

DESCRIPTION: Downstream of Town of Smithfield at Red Point.

RIVER MILE: 3.00

LATITUDE: 36.96667 **LONGTITUDE:** -76.61667

Segment begins at Rt 258 & 10 junction southside Smithfield downstream to Red Point.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Violations of the standard for FC bacteria two stations on the Pagan River (2-PGN003.57, 2-PGN004.57) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Benthic data indicating low benthic diversity (05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Stations indicating standard violations are downstream of the past discharges from the now off-line Smithfield & Gwaltney Foods WWTP (VA0059005). The cause of the FC Bacteria standard violation is the presence of enteric bacteria. Cause of the benthic impairment is unknown.

The major historical source of Fecal Coliform bacteria into the Pagan River is believed to have been caused by the discharge of effluent from the Smithfield Foods WWTP in violation of VPDES permitted effluent limitations (outfall 001). The facility connected to central sewerage and ceased its discharge to the Pagan River July 1997. The watershed potentially receives inputs from residential sewage treatment systems, wetlands areas, and storm water runoff associated with the surrounding residential /agricultural area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the FC bacteria is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Newport News, City of

STREAM NAME: Deep Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_DEP01A00 **TMDL MAP ID:** VAT-G11E-03

SEGMENT SIZE: 0.11 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the Warwick Yacht Club.

RIVER MILE: 0.76

LATITUDE: 37.08333 **LONGTITUDE:** -76.52272

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends to the confluence with the Warwick River.

RIVER MILE: 0.00

LATITUDE: 37.08139 **LONGTITUDE:** -76.52597

Segment begins at the Warwick Yacht Club and extends downstream to the confluence with the Warwick R

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
PCBs, Copper, Zinc Sediment SV Exceedance	Unknown

SUMMARY:

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at the monitoring station on Deep Creek (2-DEP000.26) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient exceedances of sediment screening values is the basis to assess this segmnet as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of the elevated sediment values for Zn, Cu, & PCBs is unknown.

The Deep Creek monitoring station (2-DEP000.26) is located in the City of Newport News. The land use in the watershed is primarily residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxic metals concentration is currently unknown.

Additional monitoring is necessary.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Chuckatuck Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_CKT02A00 **TMDL MAP ID:** VAT-G11E-02

SEGMENT SIZE: 0.44 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Two-tenth mile upstream of station

RIVER MILE: 1.53

LATITUDE: 36.91169 **LONGTITUDE:** -76.50958

DOWNSTREAM LIMIT:

DESCRIPTION: Two-tenth mile downstream station

RIVER MILE: 0.53

LATITUDE: 36.91931 **LONGTITUDE:** -76.49719

Segment begins one-tenth mile upstream of monitoring station and extends one-tenth mile downstream.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Copper, Nickel	Unknown

SUMMARY:

There is insufficient monitoring data for sediment toxics recorded at DEQ's ambient water quality monitoring stations to assess this segment for the Clean Water Act's Aquatic Life Use Support Goal. Data collected for the toxic metals indicated exceeded the screening values. Best Professional Judgement is used to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Additional monitoring for confirmatory data will be implemented to allow definitive assessment of the presence or absence of impairment.

The cause of the elevated copper and nickel metals concentrations is currently unknown.

The Chuckatuck Creek monitoring station (2-CKT000.84) is located in Isle of Wight County. The land use in the watershed is mixed agricultural , forested, and residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding forested/agricultural/residential area. The specific source of the elevated toxic metals concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Pagan River (Upper)

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11E_PGN03A00 **TMDL MAP ID:** VAT-G11E-12

SEGMENT SIZE: 0.75 - Sq. Mi.

INITIAL LISTING: 1996 **TMDL Schedule:** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at end of tidal waters, 0.5 mi. downstream of canal Run.

RIVER MILE: 9.50

LATITUDE: 37.01667 **LONGTITUDE:** -76.66667

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends adjacent to intersection Rt 258 & Rt 10 southside Town of Smithfield

RIVER MILE: 5.02

LATITUDE: 36.96667 **LONGTITUDE:** -76.61667

Begins at end of tidal waters downstream to RM 5.03 (junction Rt 258 & 10 southside Smithfield).

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Dissolved Oxygen	Unknown
General Standard (Benthic)	

SUMMARY:

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at four out of ten monitoring stations on the Pagan River (2-PGN008.42, 2-PGN007.44, 2-PGN006.65, and 2-PGN005.46) to assess this segment as partially supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient violations of Virginia's water quality standard for Dissolved Oxygen were recorded at the above monitoring stations and low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as partially supporting and threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. These stations indicating standard violations are upstream of the past discharge from the now off-line Smithfield & Gwaltney Foods WWTPs (VA0059005). The facility was connected to central sewerage and ceased its discharge to the Pagan River July 1997. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of low benthic diversity is unknown.

The major historical source of Fecal Coliform bacteria into the Pagan River is believed to have been caused by the discharge of effluent from the Smithfield Foods WWTP in violation of VPDES permitted Fecal Coliform effluent limitations (outfall 001). The facility connected to central sewerage and ceased its discharge to the Pagan River July 1997. The watershed potentially receives inputs from residential sewage treatment systems, wetlands areas, and storm water runoff associated with the surrounding residential /agricultural area. This watershed is ranked high priority for potential NPS pollution by DCR. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Chuckatuck Creek

HYDROLOGIC UNIT: 02080206

SEGMENT ID.: VAT-G11R_CKT01A00 **TMDL MAP ID:** VAT-G11R-01

SEGMENT SIZE: 2.97 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the headwaters.

RIVER MILE: 7.00

LATITUDE: 36.89100 **LONGTITUDE:** -76.63580

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends to the start of Godwins Millpond.

RIVER MILE: 4.03

LATITUDE: 36.90833 **LONGTITUDE:** -76.51250

Segment begins at the headwaters and extends to start of Godwins Millpond.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

There is insufficient monitoring data for sediment benthics at DEQ's ambient water quality monitoring station to assess this segment for the Clean Water Act's Aquatic Life Use Support Goal. Best Professional Judgement is used to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Additional monitoring for confirmatory data will be implemented to allow definitive assessment of the presence or absence of impairment.

The cause of the low benthic diversity is currently unknown.

The Chuckatuck Creek monitoring station (2-CKT005.72) is located in Isle of Wight County. The land use in the watershed is mixed agricultural , forested, and residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding forested/agricultural/residential area. The specific source of the low benthic diversity is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Nansemond River (Upper)

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G13E_NAN01A00 **TMDL MAP ID:** VAT-G13E-03

SEGMENT SIZE: 0.32 - Sq. Mi.

INITIAL LISTING: 1994 **TMDL Schedule:** - 2010

UPSTREAM LIMIT:

DESCRIPTION: Lake Meade Dam

RIVER MILE: 19.80

LATITUDE: 36.74640 **LONGTITUDE:** -76.58900

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence with Shingle Creek

RIVER MILE: 18.60

LATITUDE: 36.74360 **LONGTITUDE:** -76.57440

Segment begins at the Lake Meade Dam and extends downstream to the confluence of the Nansemond River

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at a station on the Nansemond R. (02-NAN019.14) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. Low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the low benthic diversity is unknown.

The Nansemond River monitoring station is located at the Route 460 Bridge over the Nansemond River in the City of Suffolk. The Nansemond River BIBI monitoring stations are randomly located within the Nansemond River, in the City of Suffolk. The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the enteric bacteria causing the Fecal Coliform Bacteria standard violations is currently unknown. The source of the low benthic diversity is unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Nansemond River (Lower)

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G13E_NAN01C00 **TMDL MAP ID:** VAT-G13E-05

SEGMENT SIZE: 6.58 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at line across Nansemond from Sleepy Hole to Nansemond Pt.

RIVER MILE: 6.10

LATITUDE: 36.74360 **LONGTITUDE:** -76.57440

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Nansemond River at confluence with James River.

RIVER MILE: 0.00

LATITUDE: 36.91070 **LONGTITUDE:** -76.46260

Segment begins at line across Nansemond from Sleepy Hole to Nansemond Pt. extends to mouth of River

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Sufficient violations of Virginia's water quality standard (General Standard) as evidenced by low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.
The cause of the low benthic diversity is unknown.

The Nansemond River BIBI monitoring stations are randomly located within the Nansemond River, in the City of Suffolk. The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the low benthic diversity is currently unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Suffolk, City of

STREAM NAME: Nansemond River (Middle)

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G13E_NAN01B00 **TMDL MAP ID:** VAT-G13E-04

SEGMENT SIZE: 4.1 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Confluence with Shingle Creek

RIVER MILE: 18.60

LATITUDE: 36.74360 **LONGTITUDE:** -76.57440

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth of Nansemond River at confluence with James River.

RIVER MILE: 6.10

LATITUDE: 36.91070 **LONGTITUDE:** -76.46260

Segment begins at the confluence of Shingle Creek extends to mouth of Nansemond R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Sufficient violations of Virginia's water quality standard (General Standard) as evidenced by low benthic diversity (stations for BIBI 05J05 & 05J07) is the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.
The cause of the low benthic diversity is unknown.

The Nansemond River BIBI monitoring stations are randomly located within the Nansemond River, in the City of Suffolk. The watershed receives inputs from storm water runoff associated with the surrounding residential /urban area. The specific source of the low benthic diversity is currently unknown.

Targeted monitoring is necessary to further delineate the extent of impairment and to characterize its causes and sources.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Isle of Wight

STREAM NAME: Carbell Swamp

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G14R_CRL01A00 **TMDL MAP ID:** VAT-G14R-01

SEGMENT SIZE: 2.57 - Miles

INITIAL LISTING: 2002 **TMDL Schedule:** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at the headwaters.

RIVER MILE: 6.60

LATITUDE: 36.89100 **LONGTITUDE:** -76.63580

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends to the start of unnamed pond.

RIVER MILE: 4.03

LATITUDE: 36.90833 **LONGTITUDE:** -76.51250

Segment begins at the headwaters and extends to start of Unnamed pond.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Sufficient violations of Virginia's water quality standard for pH was recorded at water quality monitoring stations on Carbell Swamp (2-CRL004.04) to assess this segment as not supporting of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Minimal data was collected 2/2 to assess. Unconfirmed benthic biological monitoring at the above monitoring station provides the basis, using Best Professional Judgement, to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the pH standard violation is attributed to naturally occurring conditions. Additional benthic monitoring will be conducted to confirm benthic conditions.

The land use in the watershed is mixed agricultural, forested, and residential. The watershed potentially receives inputs from wetlands areas, residential sewage treatment systems, and storm water runoff associated with the surrounding forested/agricultural/residential area. The source of the depressed pH concentration is believed to be natural conditions for a swamp.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Elizabeth Upper + branches & Lafayette Rivers

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_ELI01A00 & **TMDL MAP ID:** VAT-G15E-01-01

SEGMENT SIZE: 18.43 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Begins at headwaters (all branches Elizabeth R. and Lafayette R.) and origin of the Elizabeth R. mainstem.

RIVER MILE: 13.20

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at upper mainstem terminus near Lambert's Point.

RIVER MILE: 9.20

LATITUDE: **LONGTITUDE:**

Begins at headwaters (all branches Elizabeth R. and Lafayette R.) and mainstem to Lambert's Point.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Benthic BIBI benthic surveys are the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the lower benthic diversity designation is unknown.

The land use in the watershed is primarily industrial shipping/shipbuilding with heavy urban/residential development within the watershed. The watershed potentially receives inputs from storm water runoff associated with the surrounding residential area/urban area. The specific source of the benthic impairment is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Middle & Lower Elizabeth R. mainstem

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_ELI01B00 & **TMDL MAP ID:** VAT-G15E-01-02

SEGMENT SIZE: 4.7 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins in Elizabeth River mainstem at Lambert's Point.

RIVER MILE: 9.20

LATITUDE: **LONGTITUDE:**

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at downstream terminus of Elizabeth River, confluence with Hampton Roads Harbor.

RIVER MILE: 0.00

LATITUDE: **LONGTITUDE:**

Segment begins at Lambert's Point downstream to mouth of Elizabeth River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
General Standard (Benthic)	Unknown

SUMMARY:

Benthic BIBI benthic surveys are the basis to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the lower benthic diversity designation is unknown.

The land use in the watershed is primarily industrial shipping/shipbuilding with heavy urban/residential development within the watershed. The watershed potentially receives inputs from storm water runoff associated with the surrounding residential area/urban area. The specific source of the benthic impairment is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Deep Cr. Trib to Southern Branch Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_DEC01A00 **TMDL MAP ID:** VAT-G15E-01-05

SEGMENT SIZE: 0.5 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins one-half mile upstream of monitoring station @ RM 1.04.

RIVER MILE: 1.04

LATITUDE: 36.75140 **LONGTITUDE:** -76.33280

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth, confluence with Southern Br. Elizabeth R.

RIVER MILE: 0.00

LATITUDE: 36.75710 **LONGTITUDE:** -76.29860

Segment begins one-half mile upstream of monitoring station and extends to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total PCBs Fish Tissue	Unknown
Sediments - PCBs & Hg	

SUMMARY:

Exceedance of fish tissue screening value for PCBs in seven fish species collected in 1998 & 2000 at station (2-DEC000.54) to assess this segment as partially supporting of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report. Exceedance of screening values for sediment PCBs & Hg at the above monitoring station is reason to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at the same site. Cause of the sediment PCB & Hg contamination is unknown.

The Deep Creek monitoring station (2-DEP000.54) is located near the confluence with the Southern Branch Elizabeth R. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. In proximity to the monitoring site is a coal powered power plant (VPDES VA0004081: Chesapeake Energy Center) and roadway runoff. The specific source of the elevated sediment and fish tissue PCBs concentration is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01F00 **TMDL MAP ID:** VAT-G15E-01-08

SEGMENT SIZE: 0.4 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins near Norfolk Naval Shipyard.

RIVER MILE: 1.76

LATITUDE: 36.81180 **LONGTITUDE:** -76.29010

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at mouth.

RIVER MILE: 1.0

LATITUDE: 36.83960 **LONGTITUDE:** -76.29310

Segment begins near Norfolk Naval Shipyard and extends downstream to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
PCBs & Zinc in sediment	Unknown

SUMMARY:

Sufficient violations of Virginia's water quality standard for Fecal Coliform Bacteria were recorded at DEQ's ambient water quality monitoring station on the Southern Branch (2-SBE001.53) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Sufficient exceedance of screening values for sediment Zn and PCBs were recorded at the above monitoring station using Best Professional Judgement to assess this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. The cause of the Fecal Coliform Bacteria standard violation is the presence of enteric bacteria. The cause of the elevated zinc and PCBs concentrations is currently unknown.

The subject Southern Branch monitoring station (2-SBE001.53) is located near the Norfolk Naval Shipyard in Portsmouth. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxics concentrations is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, City of

STREAM NAME: UT to Southern Branch

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_YGB01A00 **TMDL MAP ID:** VAT-G15E-01-12

SEGMENT SIZE: 0.01 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins 0.8 mi. upstream of mouth.

RIVER MILE: 0.80

LATITUDE: 36.72640 **LONGTITUDE:** -76.24590

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends 0.6 mi. upstream from mouth.

RIVER MILE: 0.6

LATITUDE: 36.72620 **LONGTITUDE:** -76.24680

Segment begins 0.8 mi. upstream of mouth to 0.6 mi. downstream.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Dissolved Oxygen	Unknown

SUMMARY:

Sufficient exceedance of the minimum dissolved oxygen criteria at citizen monitoring station (2SBE-23-ALL) to justify use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the depressed dissolved oxygen concentrations is unknown, but may be related to low flows and shallow water conditions at the site.

The land use in the watershed is primarily urban/residential with moderate agriculture. The watershed potentially receives inputs from roadway areas and storm water runoff associated with the surrounding residential/urban and agricultural areas. The specific source of the depressed oxygen concentrations is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Southern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_SBE01A00 th **TMDL MAP ID:** VAT-G15E-01-06

SEGMENT SIZE: 3.97 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at Great Bridge Locks.

RIVER MILE: 8.60

LATITUDE: 36.72380 **LONGTITUDE:** -76.24880

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at the mouth.

RIVER MILE: 0.00

LATITUDE: 36.83960 **LONGTITUDE:** -76.29310

Segment begins at Great Bridge Locks and extends to mouth.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total PCBs Fish Tissue	Unknown

SUMMARY:

Sufficient exceedance of fish tissue screening value for PCBs at the following monitoring stations (2-SBE000.57, 2-SBE002.30, 2-SBE005.48, 2-SBE006.00, and 2-SBE007.46) justify use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at a nearby site (2-SBE001.53).

The Southern Branch monitoring stations are located throughout the Southern Branch in the Cities of Chesapeake and Portsmouth. The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from roadway areas and storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated PCBs concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, City of

STREAM NAME: UT to New Mill Creek to Southern Branch

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_NMC01A00 **TMDL MAP ID:** VAT-G15E-01-11

SEGMENT SIZE: 0.01 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins one-tenth mi. upstream of Cedar Rd. crossing.

RIVER MILE: 8.60

LATITUDE: 36.72000 **LONGTITUDE:** -76.32860

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends one-tenth mi. downstream of Cedar Rd. crossing.

RIVER MILE: 8.40

LATITUDE: 36.72040 **LONGTITUDE:** -76.32500

Segment begins one-tenth mi. upstream of Cedar Rd. crossing to one-tenth mi. downstream.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Dissolved Oxygen	Unknown

SUMMARY:

Sufficient exceedance of the minimum dissolved oxygen criteria at citizen monitoring station (2NMC-73-ALL) to justify use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the depressed dissolved oxygen concentrations is unknown, but may be related to low flows and shallow water conditions at the site.

The land use in the watershed is primarily urban/residential with moderate agriculture. The watershed potentially receives inputs from roadway areas and storm water runoff associated with the surrounding residential/urban and agricultural areas. The specific source of the depressed oxygen concentrations is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Eastern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_EBE01C00 **TMDL MAP ID:** VAT-G15E-02-02

SEGMENT SIZE: 0.35 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins one mile upstream of mouth.

RIVER MILE: 1.00

LATITUDE: 36.83850 **LONGTITUDE:** -76.27510

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at confluence with mainstem Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.84130 **LONGTITUDE:** -76.29060

Segment begins one mile upstream of mouth and ends at confluence with mainstem.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Zinc	Unknown

SUMMARY:

Data collected for sediment metals exceeded the screening values. Best Professional Judgement is used to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report.

The cause of the elevated zinc concentrations is currently unknown.

The Eastern Branch monitoring station (2-EBE000.40) is located at the Berkley Bridge in the City of Norfolk. The land use in the watershed is primarily urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated sediment toxic metals concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, City of

STREAM NAME: Eastern Branch, Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_EBE01B00 **TMDL MAP ID:** VAT-G15E-02-03

SEGMENT SIZE: 0.88 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - 2014

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence of Broad Creek with Eastern Branch.

RIVER MILE: 4.00

LATITUDE: 36.83920 **LONGTITUDE:** -76.22680

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at N&W RR trestle crossing of the Eastern Branch.

RIVER MILE: 1.00

LATITUDE: 36.83830 **LONGTITUDE:** -76.27390

Segment begins at confluence of Broad Cr. downstream to N&W RR trestle crossing.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total PCBs Fish Tissue	Unknown

SUMMARY:

Sufficient violations of the standard for FC Bacteria were recorded at DEQ's station on the Eastern Branch (2-EBE002.98) to assess this segment as not supporting of the Clean Water Act's Swimming Use Support Goal for the 2002 305(b) report. Exceedance of fish tissue screening value for PCBs at the following monitoring station (2-EBE001.20) justify use of BPJ to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report. The cause of the elevated Fecal Coliform bacteria concentrations is unknown. The cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at a nearby site (2-SBE001.53) in the Southern Branch of the Elizabeth River.

The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated PCBs concentrations in fish tissue is currently unknown.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Norfolk, Portsmouth, Cities of

STREAM NAME: Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_ELI01A00 **TMDL MAP ID:** VAT-G15E-03-02

SEGMENT SIZE: 6.1 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence Southern & Eastern Branches.

RIVER MILE: 7.00

LATITUDE: 36.83960 **LONGTITUDE:** -76.29080

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at Lamberts Point.

RIVER MILE: 4.00

LATITUDE: 36.87020 **LONGTITUDE:** -76.33690

Segment begins at confluence Southern & Eastern Br. downstream to Lamberts Point.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Total PCBs Fish Tissue	Unknown

SUMMARY:

Sufficient exceedance of fish tissue screening value for PCBs at the following monitoring station (2-ELI005.58) to justify use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated fish tissue levels of PCBs is unknown, but may be related to sediment PCB contamination at a nearby site (2-SBE001.53).

The land use in the watershed is primarily industrial shipping/shipbuilding with moderate urban/residential. The watershed potentially receives inputs from roadway areas and storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated PCBs concentration in the tissue of one species of fish is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Portsmouth, City of

STREAM NAME: Western Branch Elizabeth River

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_WBE01B00 **TMDL MAP ID:** VAT-G15E-04-01

SEGMENT SIZE: 1.1 - Sq. Mi.

INITIAL LISTING: 1998 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment begins at confluence Sterns Creek.

RIVER MILE: 3.50

LATITUDE: 36.83730 **LONGTITUDE:** -76.38190

DOWNSTREAM LIMIT:

DESCRIPTION: Segment ends at mouth, confluence with mainstem Elizabeth River.

RIVER MILE: 0.00

LATITUDE: 36.85740 **LONGTITUDE:** -76.33790

Segment begins at confluence Sterns Cr. downstream to mouth, confluence with mainstem.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Threatened

IMPAIRMENT CAUSE:	IMPAIRMENT SOURCE
Zinc	Unknown

SUMMARY:

Data collected for the toxic metal zinc indicated exceedance of the screening values. Best Professional Judgement is used to evaluate this segment as threatened of the Clean Water Act's Aquatic Life Use Support Goal for the 2002 305(b) report. Sufficient exceedance of fish tissue screening value for PCBs at the following monitoring station (2-WBE002.11) to justify use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated zinc sediment metals concentrations is currently unknown. The cause of the elevated fish tissue levels of PCBs is unknown.

The land use in the watershed is primarily industrial with moderate urban/residential. The watershed potentially receives inputs from wetlands areas and storm water runoff associated with the surrounding residential area/urban area. The specific source of the elevated toxic metals concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.

2002 303(d) PART 3 WATERS OF CONCERN FACT SHEET

RIVER BASIN: JAMES RIVER BASIN

CITY/COUNTY: Chesapeake, Portsmouth, Cities of

STREAM NAME: Willuoghby Bay

HYDROLOGIC UNIT: 02080208

SEGMENT ID.: VAT-G15E_WLY01A00 **TMDL MAP ID:** VAT-G15E-06-01

SEGMENT SIZE: 0.02 - Sq. Mi.

INITIAL LISTING: 2002 **TMDL Schedule:** - NA

UPSTREAM LIMIT:

DESCRIPTION: Segment extends 0.2 square miles around station.

RIVER MILE: 1.39

LATITUDE: 36.95740 **LONGTITUDE:** -76.28460

DOWNSTREAM LIMIT:

DESCRIPTION: Segment extends 0.2 square miles around station.

RIVER MILE: 1.37

LATITUDE: 36.98720 **LONGTITUDE:** -76.28380

Segment extends 0.2 square miles around station.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Threatened

IMPAIRMENT CAUSE:	**IMPAIRMENT SOURCE**
Fish Tissue - Arsenic	Unknown

SUMMARY:

Sufficient exceedance of fish tissue screening value for arsenic at the following monitoring station (2-WLY001.38) justifies use of Best Professional Judgement to evaluate this segment as threatened of the Clean Water Act's Fish Consumption Use Support Goal for the 2002 305(b) report.

The cause of the elevated fish tissue levels of arsenic is unknown.

The land use in the watershed is primarily federal naval facility with moderate urban/residential. The watershed potentially receives inputs from roadway areas and storm water runoff associated with the surrounding residential/urban area. The specific source of the elevated arsenic concentration is currently unknown.

Additional monitoring is necessary to confirm impairment.